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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,992	07/30/2003	Sheng Ma	YOR920030160US1	7734

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EXAMINER

CHANNAVAJALA, SRIRAMA T

ART UNIT	PAPER NUMBER
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2166

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,992

Applicant(s)

MA ET AL.

Examiner

Srirama Channavajjala

Art Unit

2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10-15,17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10-15 and 17-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 1,3-8,10-15,17-21 are presented for examination
2. Claims 1,8,15 have been amended [6/9/2006].
3. Claims 2,9,16 have been cancelled [6/9/2006].

Drawings

4. The Drawings filed on 9/15/2003 are acceptable for examination purpose.

Information Disclosure Statement

5. The information disclosure statement filed on 11/21/2003 is in compliance with the provisions of 37 CFR 1.97, and has been considered and a copy is enclosed with this Office Action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1,8,15, are rejected under 35 U.S.C. 101 because invention is directed to non-statutory subject matter.

As set forth in MPEP 2106(II)A:

Identify and understand Any Practical Application Asserted for the Invention The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036.

Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some “real world” value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a “useful, concrete and tangible” result to have a practical application.

7. Regarding claim 1,8,15, “ A method of mining attribute associations in a relational data set comprising the steps of:

obtaining multiple items....

discovering attribute.....

‘wherein the multi-attribute mining templates are related by an anti-monotonicity property such that the property holds when mining top-down from k-itemsets to (k+1)-itemsets and when mining items defined by a set of k attributes to items defined by k+1 attributes” is directed to “abstract idea” because all of the elements in the claim 1 would reasonably be interpreted by one of ordinary skill in light of the disclosure at page 8, line 20-27, page 9-13, page 14, line 10-17, page 14, line 20-24, page 15, line 3-16, page 17, line 16-21, page 18, line 6-26, page 19-20 as software per se, because it is merely software routines or mathematical algorithm[s], is “non-statutory subject matter” and **claim 1,8,15**, do not have “practical application” because the “**final result**” by the claimed invention in the claim 1,8,15 elements particularly “*wherein the multi-attribute*

mining templates are related by an anti-monotonicity property such that the property holds when mining top-down from k-itemsets to (k+1)-itemsets and when mining items defined by a set of k attributes to items defined by k+1 attributes” merely algorithms or routines, non-functional descriptive material, not producing “**useful, tangible and concrete**” result, and does not output or display any useful “real-world” results, therefore, claim 1,8,15, is a non-statutory subject matter. The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a “**useful, concrete and tangible result.**” The Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”).

The court in State Street noted that the claimed invention in Alappat constituted a practical application of an abstract idea because it produced a *useful, concrete and tangible result* the display of a smoothed heart beat to a system user. The Federal

Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101 analysis. AT&T, 172 F.3d at 1358, 50 USPQ2d at 1451 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex II).

The examiner reviewed the specification, page 8, line 20-27, page 9-13, page 14, line 10-17, page 14, line 20-24, page 15, line 3-16, page 17, line 16-21, page 18, line 6-26, page 19-20 but was unable to find a practical real-world use of the result. If the applicant is able to find one and inserts it into the claims provide the location the element[s] is found in the specification.

In view of above analysis of claims 3-7, 10-14, 17-21 depend from claim 1, 8, 15, is also rejected.

For “General Analysis for Determining Patent-Eligible Subject Matter”, see 101 Interim Guidelines as indicated below:

<<<http://www.uspto.gov/web/offices/pac/dapp/oqsheet.html>>>

No new matter should be entered.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. ***Claims 1,3-8,10-15,17-21 rejected under 35 U.S.C. 102(e) as being anticipated by Anwar, US Publication No. 2004/0181519 filed on July 09, 2002, published on Sept 16, 2004.***

10. As to claim 1,8,15, Anwar teaches a system which including 'a method of mining attribute associations in a relational data set' [fig 3D-3F], Anwar teaches multi dimensional database particularly OLAP cube;

'obtaining multiple items from the relational data set' [page 4, col 1, 0062-0064, col 2, 0079, fig 3A-3H], Anwar specifically teaches OLAP data cube for example two dimensional, three-dimensional establishing relational data sets with multiple items as detailed in tables 3A through 3H that corresponds to multiple items from the relational data set;

'discovering attribute associations using (i) multi-attribute mining templates formed from at least a portion of the multiple items' [page 6, col 2, 0095, page 7, col 1, 0096, fig 4C], Anwar specifically teaches rule based criteria particularly used in measuring average sales, and sales count and like [page 6, col 2, 0095], further these

selected measure average sales based on multiple-attributes , related rule template list as detailed in page 7, col 2, 0096;

(ii) one or more mining preferences specified by a user' [page 7, col 1, 0097], Anwar specifically teaches user selects one or more dimensional levels that is used by the method to identify item sets that satisfy the user criteria as detailed in page 7, col 1, 0097;

'wherein the multi-attribute mining templates are related by an anti-monotonicity property such that the property holds when mining top-down from k-itemsets to (k+1)-itemsets' [page 3, col 1, 0055, col 2, 0056], Anwar specifically teaches related to market basket analysis, antimonotonic properties used in analysis of item sets [page 3, col 1, 0055], further Anwar also suggests antimonotonic properties particularly used in search space in finding frequent combinations of k- items as detailed in page 3, col 2, 0056; 'when mining items defined by a set of k attributes to items defined by k+1 attributes' [page 3, col 2, 0058, page 4, col 2, 0079, fig 2A-2B], Anwar specifically user selects a dimensions from teaches n-dimensional cube , setting the criteria that selects a measure and generates the item set , defining k, and incrementing k-itemsets until it satisfies the defined condition as detailed in page 4, 0079].

11. As to claim 3,10,17, Anwar disclosed 'one or more mining preferences specified by the user comprise specification of at least (i) one or more desired multi-attribute mining templates' [page 6, col 2, 0094, page 7, col 1, 0096] '(ii)one or more rules concerning values of attributes in the multi-attribute mining templates' [fig 4C, page 6,

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col 2, 0094-0095]; (iii) one or more rules concerning values of attributes in the multi-attribute mining templates' [page 7, col 1, 0097].

12. As to claim 4,11,18, Anwar disclosed 'generating candidate patterns at a template level' [page 7, col 2, 0100], Anwar specifically teaches wizard definition process that allow user to specify any particular dimensions or patterns at template level as detailed in page 7, col 2, 0100.

13. As to claims 5,12,19, Anwar disclosed 'candidate patterns of multi-attribute mining templates by merge-joining patterns of nodes of at least a portion of the templates without pre-sorting' [page 6, col 1, 0087].

14. As to claims 6,13,20, Anwar disclosed 'maintaining one or more occurrence buffers to count occurrences of patterns' [page 6, col 2, 0095], Anwar specifically suggests various measuring functions particularly ratio of two measurements, average sales, sales count and like as detailed in page 6, 0095.

15. As to claims 7,14,21,Anwar disclosed 'pruning candidate patterns at a template level' [page 4, col 2, 0074-0076]

Response to Arguments

16. Applicant's arguments at page 6-7 with respect to claim 1,3-8,10-15,17-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record

a. US Pub. No. 2004/0181519


17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam, Hosain, T, can be reached on (571) 272-3978. The fax phone numbers for the organization where the application or proceeding is assigned is 571-273-8300 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

sc
Patent Examiner.
August 21, 2006.


SRIRAMA CHANNAVAJJALA
PRIMARY EXAMINER